

UNCLASSIFIED

AD 408 326

DEFENSE DOCUMENTATION CENTER

FOR

SCIENTIFIC AND TECHNICAL INFORMATION

CAMERON STATION, ALEXANDRIA, VIRGINIA



UNCLASSIFIED

NOTICE: When government or other drawings, specifications or other data are used for any purpose other than in connection with a definitely related government procurement operation, the U. S. Government thereby incurs no responsibility, nor any obligation whatsoever; and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications, or other data is not to be regarded by implication or otherwise as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use or sell any patented invention that may in any way be related thereto.

"Now there can exist no irritating juxtaposition of dissimilar personalities comparable to that which is possible aboard a great warship, fully manned and at sea. There, everyday, among all ranks, almost every man comes into more or less of contact with almost every other man. Wholly there to avoid even the sight of an aggravating object one must needs give it Jonah's toss, or jump overboard himself. Imagine how all this might eventually operate on some peculiar human creature the direct reverse of a saint."

Herman Melville - "Billy Budd, Foretopman"

In civilian life a sociopath is often considered a nuisance. In the military service he is deemed a casualty. In civilian psychiatric hospitals psychotic patients predominate; sociopaths in large numbers are seen in correctional institutions - not hospitals. It is relatively rare to have large numbers of sociopaths and schizophrenics together under identical conditions. In the military psychiatric hospital these two groups are juxtaposed - a unique setting for controlled study of psychiatric illness. In this study, matched groups of sociopaths and schizophrenics were contrasted, and striking differences in patterns of family interaction were discovered. Lidz and Fleck, Bateson and Jackson, Wynne, and others pioneered in psychiatric family studies of schizophrenia. The present study confirms certain findings of these authors by statistical comparison of objective parameters of family interaction.

Coming from civilian psychiatric residencies to the Neuropsychiatric Service of the Philadelphia Naval Hospital, the authors were struck by the high proportion of "Patients" who did not suffer from psychosis or classical neurosis. In fact, these patients were not aware that they suffered at all. They attracted unfavorable attention to themselves because they made other people suffer. Under the military nomenclature these patients are usually assigned one of the following diagnoses:

"Passive Aggressive Reaction," Antisocial Personality," or "Emotional Instability Reaction with Antisocial Features." In this study the authors have used the term "Sociopath" to designate these patients. This group of patients coincides descriptively with many of those formerly termed "psychopaths" and defined by Guttmacher and Weikofen (6.) as:

"A group of mentally abnormal individuals who do not fit into the categories of psychoneurosis, psychosis, or intellectual deficiency. These patients are generally without complaints. They do not exhibit abnormally pronounced mood disturbances, nor do they present the distortions of thought which become so manifestly evident in delusions and hallucinations. They are not intellectually retarded, yet they are constantly in difficulty because of their abnormalities of behavior. They are unable to conform to the standards of their social group, and are tragic failures in establishing lasting and satisfying interpersonal relationships."

#### SETTING OF THE STUDY:

The Philadelphia Naval Hospital is a 1000 bed general hospital containing a 250 bed psychiatric unit. This unit admits psychotic and sociopathic patients in almost equal numbers. There are few patients with true neurotic illness, although a large number of patients are admitted with mixed clinical pictures including definite neurotic elements. The average length of hospitalization is three to five months for schizophrenics, approximately half that time for sociopaths. Both groups are admitted to the same closed admission ward. All parents receive identical letters which notify them of their son's admission. This letter is accompanied by a very extensive social service questionnaire.

In the setting described, the following impressionistic observations were made: The parents of sociopaths were frequently uninterested and showed conspicuous lack of involvement with their sons. Repeatedly they seemed to ignore the patient and his illness. For instance, they seldom

visited their sociopathic sons. They completed the social service questionnaires in terse, impatient fashion and their answers were frequently incomplete and non-revealing. In some instances, they did not even return the questionnaire. They rarely sent letters of inquiry. The few letters they sent were often less concerned with the patient's hospitalization than with blaming the Navy for the son's maladjustment, or urging that he be returned to duty rather than sent home. The authors recall experiences in civilian psychiatry when they were besieged by inquiries from families requesting information. In contrast, the authors were amazed at the sparseness of family contact with the sociopaths in the military setting. Considering that a large proportion of these young patients had been away from home for a long time, had never been in any hospital before, were suddenly flown to the United States without warning, and were the subject of a cryptic form letter sent to their loved ones, the paucity of family responses was truly surprising.

The behavior of the parents of the schizophrenic patients was entirely different. These parents demonstrated an intense involvement with their sons. Though the interchange was grossly bizarre in some instances, at least the parents visited, an event which rarely occurred with the sociopaths. The parents of schizophrenic patients traveled long distances, and visited many times. This type of involvement was reflected in the social service questionnaire which was much more thoroughly filled out. There was often the addition of completely gratuitous information. In their letters these parents seemed genuinely puzzled, frightened and anxious about the patient's welfare. Even though they frequently appeared completely oblivious to the patient's true emotional needs, the family interaction was vigorous.

#### METHOD:

The following study was undertaken to see if these impressions were verified by objective measures of parental interaction with the patients. Forty patients were selected for study - twenty schizophrenics and twenty sociopaths. The study group was obtained by including every patient admitted to the case load of the authors at the Philadelphia Naval Hospital between 15 February 1962 and 1 July 1962. The only patients excluded from the study were those who did not fall unequivocally into the diagnostic category of schizophrenic or sociopath. One schizophrenic patient who otherwise would have been eligible for inclusion in this study was excluded because no social service questionnaire could be obtained, and the parents did not visit the hospital. Eleven sociopaths who otherwise would have been included in the study, were excluded because no social service questionnaire could be obtained and their parents did not visit the hospital. With these exceptions, all patients with clear-cut diagnoses of schizophrenia or sociopathy were included in the study in chronological order of their admission. For the purposes of the study, only those schizophrenics were included who demonstrated all four of Bleuler's (2.) primary symptoms - loosening of associations, autism, affective disturbance, and ambivalence. In addition, all schizophrenic patients displayed at least one secondary symptom of schizophrenia, such as hallucinations, delusions, or grandiosity.

Sociopathic patients included in the study met the criteria of the American Psychiatric Association Diagnostic Manual (4.). These patients were "ill primarily in terms of society and conformity with the prevailing cultural milieu, and not only in terms of personal discomfort and relations with other individuals. They were frequently in trouble, profiting neither from experience nor punishment and maintaining no real loyalties to any

group, person, or code. They were frequently callous and hedonistic, showing marked emotional immaturity, with lack of sense of responsibility, lack of judgment, and an ability to rationalize their behavior so that it appeared warranted, reasonable, and justified." Their sociopathic reactions were not symptomatic of more primary personality disturbance. No patients were included with schizoid, paranoid, cyclothymic, or inadequate personality pattern disturbances. No patients were included in the sociopathic group with psychosis, classical neurosis, or intellectual deficiency.

Patients with mixed, borderline, or doubtful diagnoses were scrupulously avoided. To increase diagnostic reliability, each patient was interviewed independently by two members of the study team. The first examiner was the psychiatrist managing the case. The second interviewing psychiatrist was denied any knowledge of the patient's clinical records or previous diagnosis. Cases were excluded from the study where there was any disagreement about diagnosis between the independent interviewing psychiatrists.

Three primary sources of information were studied and compared for each group of patients:

I. Social Service Questionnaire:

This questionnaire contained requests for the following information: national background of the parents, religion and ethnic origin of the parents, the parents' occupation, income, length of education, and length of marriage; the number and ages of siblings, and their adjustment; data about the patient - his growth and development, school history, social adjustment, work history, and attitudes to-

ward the military service. The parents were asked for their reaction to the news of their son's hospitalization. One section of the questionnaire was labeled "Comments". The parents were encouraged to report here any information which they thought would help the doctors to treat the patient.

Tabulations were made of: (a) total number of words in the questionnaire, (b) number of words in the "Comments" section, and (c) number of gratuitous words - all information not specifically requested in the questionnaire.

The tone of parental concern as reflected in the social service questionnaire was evaluated according to the following rating scale devised by the authors:

- (A) Appropriately concerned.
- (B) Unconcerned - parent appears uninvolved and uninterested in the fate of the patient.
- (C) Rejecting - parent appears angry with the patient and blames him for being hospitalized. Any concern for the patient is expressed in hostile terms.
- (D) Pseudo-concerned. The parents react to their own needs rather than the needs of the patient. For example, the parents may appear distraught but their concern seems based on fear that hospitalization reflects adversely upon them as parents. Strong affects which are not immediately related to the patient's condition are observed. Parental behavior nevertheless adheres to social convention.
- (E) Pathologically concerned. Behavioral interaction becomes inappropriate and gross psychopathology may be observed. For example, extreme anxiety or psychotic thinking may be evident in the parents' communication.



## II. Parent Visits:

The incidence and frequency of family visits, and the distances traveled by parents were recorded.

## III. Interviews with Parents:

Where possible, interviews with parents supplemented the impressions gained from the social service questionnaire. However, interview data were not subjected to statistical analysis.

### RESULTS:

1. Parents of schizophrenics responded with more total words, more words in the "Comments" section, and more words of gratuitous information than did the parents of the sociopaths.

2. The tone of social service questionnaires returned by the parents of schizophrenics fell into the pseudo-concerned or pathologically concerned categories in thirteen out of twenty instances. The tone of the questionnaires returned by the parents of sociopaths fell into the unconcerned or rejecting categories in ten out of twenty instances.

3. Parents of schizophrenics usually visited the patient at least once, whereas the parents of sociopaths frequently failed to visit at all. Parents of schizophrenics visited much more frequently than did parents of sociopaths, and the parents of schizophrenics traveled much greater distances to visit than did the parents of sociopaths. While it was recognized that schizophrenics generally stayed in the hospital longer than sociopaths, the difference in parental visiting patterns was nevertheless striking. There was no significant differences in the distance of parents from the hospital in the two groups.

4. Within the sociopath group, the severity of sociopathy was directly correlated with the absence of parent visits. The sociopaths with less severe disorders were the ones who did have parent visits.

5. Biographical data revealed no significant correlation between sociopathic or schizophrenic diagnosis and age of the patient, marital status, racial-ethnic origin, religion or social class. Both sociopathic and schizophrenic patients in this study belonged predominately to classes IV and V in the Hollingshead-Redlich (7.) scale. Only two out of twenty schizophrenics came from broken homes, whereas eight of twenty sociopaths came from broken homes.

6. The above numerical data combined with the interview material substantiated the initial impression that the parents of sociopaths generally rejected their sons or appeared unconcerned with their fate. The parents of schizophrenics were generally pseudo-concerned or pathologically concerned. Parents of sociopaths commonly expressed a strong desire to have the patient remain in the military service, whereas parents of the schizophrenic generally wished to have the patient discharged from the service and return home. The mother of a sociopath wrote:

"I don't think there is anything wrong with my son. Now get me straight, I'm no doctor, but I do think he needs something. He called me the other day saying he was getting out. Believe me, that's not the answer at all. There is no work for him and I am a widow. He won't mind me, and I could see more reason for him helping you. He doesn't help me, why is he getting out? Idle hands come to no good. There is nothing wrong with Bob."

In contrast to this, the mother of a schizophrenic patient wrote:

"I am terribly heartsick about my son being in the hospital. I wish several times I could get him out and bring him home with me. I will gladly pay his medical expenses. I would like to come and see my son. I work through the week, but was planning on flying there."

7. Parents of sociopaths offered few explanations for the patient's condition. Parents of schizophrenics offered a prolific assortment of etiological theories to account for their sons' illnesses. It was common to find that parents of schizophrenics projected responsibility on the service or on someone outside the immediate family. The father of one schizophrenic wrote:

"I visited my son at the Naval Hospital in Philadelphia. Yes, he seemed emotionally disturbed. He spoke to me slowly, looking at his strong hands and said to me 'Daddy, I'm strong physically and mentally, I know,' so I answered 'Why son, does anyone doubt you?' He didn't say yes or no, he didn't answer. I knew that my son probably didn't understand his general orders correctly. As a matter of fact, I assume some non-commissioned officer made my son seem ridiculous in the presence of other recruits, and I'm positive this has been the reason for his present illness. On the visit my son said to me, so help me God - 'Daddy, I love the Marines, I want to stay in' - I replied, 'of course son, you can do it.'"

The mother of a schizophrenic wrote:

"I think my son's condition is caused by a combination of his duties aboard ship, and his coming marriage which under ordinary circumstances and proper rest would have been all right. When in port he was home for each liberty without enough rest. He and his fiancée were planning the coming marriage. He had to assume financial responsibilities for articles purchased to please her desires. He has a loan pending, cosigned by her mother for a course in cosmetology. He feels that anything she needs or desires he should do. There has been friction between the families but of no consequences."

In a number of cases the parents of schizophrenics blamed a head injury for the illness:

"David was admitted to an accident ward after a head injury inflicted by another Marine in the barracks and later transferred to a closed ward, which we feel nurtured his present condition."

8. Parents of sociopaths seldom expressed guilt. Parents of schizophrenics frequently expressed guilt feelings. The mother of one schizophrenic wrote:

"Howard resented me because I always bossed him and punished him. I realize I am the cause of a lot of this, I overprotected him when he was small, and then when he grew up so big at seventeen, I had no control over him. He needed love and I didn't know how to give it to him. His father got him a car over my objections, and Howard resented this because he thought I didn't want him to have anything. There were so many car accidents here that I was afraid that he would get hurt. Also Howard lacked confidence in himself, not in driving a car, but in everything he did such as school work and not knowing how to make a living. His dad is a roofer and he told him too many times that he wanted him to get an education so that he wouldn't have to work at such a hard job as his father did. Also his other two cousins went through college and Howard told the doctor that he thought we wanted him to go also. He said he knew he didn't have it in him; in other words, he felt that we were holding them up as an example for him to follow. He always said he wanted to do work on the outside and not office work. He wanted to work in the construction business and then get a business of his own because he was tired of being bossed. I know now that he was tired of my bossing at home, and then in the service. Howard didn't want his dad and I to know about his troubles in the service. I just wrote trying to keep his morale up and sent him three money orders for five dollars, telling him to get ice cream as I knew he always spent his money right away and was always broke. No one knows he's in the hospital except his dad and I, and that isn't a disgrace as he thinks it is. I hope I have given a clear picture of what has happened in his home life. He has been a good boy and never in any trouble. He just thought he had to make a big success to please us. When I tried to show affection to Howard it embarrassed him, so I didn't too much. But he means more to us than life. I just didn't know how to go about it. When Howard was in his early teens he wanted a motor scooter. We told him he'd have to earn it himself. He got a paper route and saved and bought it himself. When he was sixteen he got a job at a chain grocery, bagging groceries, making about twenty dollars a week. He never told me but he gave two dollars a week into church. He got a letter stating how much he had given into church that year. That is how I found out."

In the interview situation this mother had an intrusive infantilizing attitude towards her son. At the same time, she demanded the patient assume responsibility for independent achievement.

9. Though parents of sociopaths and parents of schizophrenics frequently expressed hostility towards hospital personnel, there was an

interesting difference in the communications of these two groups. Only parents of schizophrenics frequently used the mechanism of undoing expressions of hostility. For example, the mother of one schizophrenic wrote:

"Albert is most unhappy on a closed ward and in order to speed his recovery, he must be transferred to an open ward and given the privilege of moving around in a normal manner. He has been kept under this 'Mickey Mouse' <sup>game</sup> ~~game~~ entirely too long, the results being his recovery has been retarded. In the beginning his condition did not warrant his being placed on a closed ward except to further the convenience of those in authority. We deeply appreciate the kindness you have shown him, but I am most disappointed that he has not been visited by the Chaplain."

#### DISCUSSION:

Many studies have stressed the warped emotional climate in which the sociopath develops. Schwarz and Ruggieri (13.) have described how the sick emotions of one generation are passed on to the next in a conscience-corrupting atmosphere of parental double standards. The child is viewed by the parents, not as an object of affection, but as a pawn to be manipulated, and as a means of expressing the parents own frustrations and defiant attitudes. The statement of Schwarz and Ruggieri (13.), "Before one can love, one must have received love" corresponds dramatically with our observation that the object relations of these parents towards their sons were as deficient as were the object relations of their sons towards their associates in military life. Johnson (8\*) has observed that "parents may find vicarious gratification of their own poorly integrated forbidden impulses in the acting out of the child." The majority of sociopaths studied were admitted to the hospital following infractions of the Uniform Code of Military Justice, such as assault, habitual insubordination, or desertion. The lack of parental outcry and their unconcern in the face of the patient's disciplinary infractions may indicate that the "superego lacunae" of these

patients correspond to similar defects in the parents superego. With the sociopaths there was no parental indignation at the alleged criminal offenses. When parents of sociopaths were informed the patient faced disciplinary action, the response could often be summarized: "So what?". In the few cases where schizophrenics had become involved in criminal proceedings, the parents' reactions bordered on panic.

Lidz and Fleck (5.) have commented on the intense guilt reactions which may occur in parents of schizophrenics: "Such parents feel impelled to do everything for the patient, even to the detriment of their other children. Their guilt is often so extreme that it must be projected on the doctors or the hospital, or expressed in incessant fault-finding with the therapy. Other projections may lead to shifting blame to the other parent, to outsiders such as teachers or to some happenstance. There may ensue an extensive search for some etiologic factors in which the parent scrutinizes every detail of the patient's history and solicits opinions from every conceivable source." The present authors were also struck by the tendency of schizophrenics' parents to express guilt feelings and to search for theories to explain the illness. The parents of schizophrenics appeared definitely more guilt ridden than the parents of sociopaths. The mechanism of projection was utilized by both groups of parents, but to a much greater degree by parents of schizophrenics. Only parents of schizophrenics followed their expressions of blame with attempts at undoing.

Lu(9.) found that parents of pre-schizophrenics frequently entertained conflicting expectations that the child remain dependent, and at the same time assume great responsibility for achievement and perfection. In the present study many parents of schizophrenic patients exhibited infantilizing attitudes while they simultaneously made demands for accomplishment on the part of the patient. The parents of sociopaths were just the opposite. They were anxious to have the patient as independent of them as possible, and yet they did not expect or demand any accomplishment from him. The opportunity to interview parents and patients together illustrated the usefulness of the concept "social interaction". As Pollak (12.) stated: "The behavior of one group member is simultaneously cause and effect of the behavior of the other members..."

What appears to be the social environment of one person is a combination of the intrapsychic problems of others. Correspondingly, the intrapsychic problem of one person is part of the social environment of other persons."

Joseph C. was visited by his parents on eleven occasions. Following these visits he invariably relapsed to withdrawn, depressed, highly psychotic behavior, sometimes approaching hebephrenic proportions. He developed bitter crying spells, agitation and loosely organized delusions that he was Dean Martin or Jerry Lewis. Between these visits the patient was a passive but likeable young sailor whose thought disorder was seldom conspicuous. The parents were both from immigrant Italian stock, the mother having been born in the United States, the father in Italy. The mother was physically attractive and seductive, possessing considerable poise, sophistication, and social grace. The father was a petulant, coarse man who operated a small wholesale fruit business. He had less than a high school education. The mother cooed over the patient, fluttered her eyelashes and exhorted him to get well so that he could return home. She behaved towards the patient as though he were an appendage of herself, existing largely to satisfy her needs for a companion, lover and child. The patient had failed several grades, had always been a poor student, and had quit high school in the tenth grade in order to join the Navy. Yet the mother repeatedly spoke as though returning to her would change all of this, and that he would go on to a successful college career. In many ways this interaction was profoundly tragic - the mother exhorting the patient in a seductive, coquettish yet infantilizing fashion to go on to new achievements, the patient attempting to behave as a good child and at the same time as a responsible adult bent on mature achievements. Invariably, while the patient was speaking the father sat on the side-lines with a bored expression on his face. The father was unable to understand why the patient was not making more effort to utilize the hospital constructively. He catalogued the patient's past educational failures and inability to adjust to service life. He said, "Joey, why don't you do better; you know doctor, Joey never applied himself in school. We always told him that something like this would happen, but he never paid any attention. We thought he would grow up when he joined the Navy. Joey, now you see what has happened - how can you expect Mommy and Daddy to come all the way down here from Connecticut every week-end if you don't work harder?" The father often described his success in his fruit business. There was conspicuous competition between father and son. The father frequently criticized the patient for not getting well. By his manner he belittled the psychiatrist for his inability to cure the patient, and he disparaged the mother for her implied stupidity in caring for such a failure as her son. Yet, throughout the patient's five months hospitalization, during which the family made eleven visits, the father went through all the motions of the dutiful father, bringing the family down from Connecticut, shepherding them around the city, and making polite conversation in the waiting room.

The parents of sociopaths frequently attempted to extricate themselves from the patient's problems, whereas parents of schizophrenics continued to interact with the patient in an attempt to preserve an appearance of concern. Wynne et al (14.) have described an attempt in such families to maintain "a persistent sameness in the structure of the family, despite physical and situational alterations in the circumstances of the family members, and despite the changes in what is going on and being experienced in family life." They considered "pseudo-mutuality" a predominant characteristic of such families.

Bateson and Jackson et al (1.) described the "double bind" as a situation in which the individual is involved in a vitally important, intense relationship in which "the other person in the relationship is expressing two orders of message, and one of these denies the other." In the present study the authors were presented with a plethora of communications from parents of schizophrenics containing ambivalent contradictory messages. Comparatively few such examples were to be found in the communications of parents of sociopaths. These parents, even if rejecting or unconcerned, generally sent consistent, unambivalent and non-contradictory messages.

The authors were profoundly impressed by the different meanings of military service in the two patient groups. To the schizophrenic the act of joining the service was an attempt to reach for desperately sought goals of independence and self realization. This represented a positive striving towards something not available at home. Our schizophrenic patients repeatedly described their hopes and dreams for a successful career in the Navy. To the sociopaths the act of joining the service represented simply an escape from home - a negative motivation away from conditions prevailing there, with little positive motivation towards anything except relief from tension. Seldom were hopes and dreams of a career described.



The sociopaths joined the service as the quickest way out of frustrating situations only to find that the frustrations were the same or greater in military life.

A comparison of parents of schizophrenics with parents of "normals" would certainly have been desirable; however, in the individuals considered for study from other hospital services, the notion of "normality" - in the sense of "free from significant psychopathology" - always turned out to be more of a presumption than a verifiable actuality. Selecting sociopaths as the control group committed the authors to an appraisal of the patients' psychopathology and avoided any a priori supposition of "normality."

The military psychiatric hospital is a unique institution in which two controlled discrete diagnostic groups are under the same roof, under the same conditions. After comparing the extent of parental involvement and concern at the time of hospitalization, it appeared that the schizophrenic had too much family, the sociopath too little.

#### SUMMARY:

Matched groups of sociopaths and schizophrenics were compared in a military psychiatric hospital. Striking differences in patterns of family interaction in the two groups were discovered. The parents of schizophrenics showed an intense involvement with their sons, characterized by "pseudo-concern" or "pathological concern". The parents of sociopaths showed conspicuous disinterest, characterized by "unconcern" or "rejection". The parents of schizophrenics wrote more, visited more, and traveled greater distances than did parents of sociopaths.

## REFERENCES

1. Bateson, G.; Jackson, D.D.; Haley, J., and Weakland, J.: Toward a Theory of Schizophrenia, *Behavioral Science* 1:251-264 (Oct.) 1956.
2. Bleuler, E.: *Dementia Praecox or the Group of Schizophrenias*, New York, International Universities Press, 1950.
3. Cochran, W. G. : Some Methods of Strengthening the Common  $\chi^2$  Tests, *Biometrics*, 10:417-451, 1954.
4. Diagnostic and Statistical Manual of Mental Disorders, prepared by The Committee on Nomenclature and Statistics of the American Psychiatric Association, Washington, American Psychiatric Association, 1952.
5. Fleck, S.; Cornelison, A. R.; Norton, N., and Lidz, T.: Interaction Between Hospital Staff and Families, *Psychiatry*, 20:343-350 (Nov.) 1957.
6. Guttmacher, M.S., and Weihofen, H.: *Psychiatry and the Law*, New York Norton, 1952.
7. Hollingshead, A. B., and Relich, F. C.: *Social Class and Mental Illness*, New York, John Wiley & Sons, Inc., 1958, pp. 387-397.
8. Johnson, A. M.: Sanctions for Superego Lacunae of Adolescents, in *Searchlights on Delinquency*, New Psychoanalytic Studies, edited by K. R. Eissler, New York, International Universities Press, Inc., 1949, pp. 225-245.
9. Lu, Y. C.: Contradictory Parental Expectations in Schizophrenia, *A.M.A. Archives of General Psychiatry*, 6:219-234 (March) 1962.
10. Marliss, G. S., and Zayachowski, W. : The Smirnov Two-Sample Statistic DMN, Windsor, Ontario, Department of Mathematics, Assumption University of Windsor, 1962.
11. Mostellek, F. D., and Bush, R. K.: Selected Quantitative Techniques, in *Handbook of Social Psychology*, Vol. I, edited by G. Lindzey, Reading, Mass., Addison - Wesley Publishing Co., 1954.
12. Pollak, O.: *Integrating Sociological and Psychoanalytic Concepts*, New York, Russell Sage Foundation, 1956.
13. Schwarz, B. E., and Ruggieri, B. A.: Morbid Parent-Child Passions in Delinquency, in *the Problem of Delinquency*, edited by Sheldon Glueck, Boston, Houghton Mifflin Co., 1959, pp. 143-152.
14. Wynne, L. C. ; Ryckoff, I. M.; Day, J. ; and Hirsch, S. L.: Pseudo-Mutuality in the Family Relations of Schizophrenics, *Psychiatry* 21:205-220 (May) 1958.

TABLE I - Comparison of Number of Words in Social Service Questionnaire Returned by Parents of Schizophrenics and Sociopaths Showing the Significance of the Difference

	Schizophrenics	Sociopaths	t-value*	p-value**
Number of samples determining each mean given below	20	20		
Total words-mean	861	567	1.98	.026
Total words-range	301-2919	211-1103		
Gratuitous words-mean	449	159	2.21	.015
Gratuitous words-range	0-2919	0-801		
Words in Comment Section-mean	303	72	2.09	.020
Words in Comment Section-range	0-2299	0-322		

\*Tested by Lord's range - based t-test (11)

\*\*These are one-sided probability values inasmuch as the authors were clearly committed to the direction of the findings.

TABLE 2 - Comparison of Tone of Parental Responses for Schizophrenics and Sociopaths

	Schizophrenics	Sociopaths
Tone of Parental Response: *		
Appropriately concerned	5	9
Unconcerned	0	6
Rejecting	2	4
Pseudo-concerned	10	0
Pathologically concerned	3	1

\*Using Cochran's (3) correction for continuity  $\chi^2_4 = 18.48$ ;  $p < .001$

TABLE 3 - Comparison of Visits by Parents of Schizophrenics and Sociopaths.

	<u>Schizophrenics</u>	<u>Sociopaths</u>	<u>p-value</u>
Number of patients who had parent visits	16	6	$p = .0005$ ( $\chi^2$ 12.22)
Mean number of parent visits	2.6	0.6	$p = .005^*$
Maximum number of miles travelled by a parent	1000	350	
Mean number of miles travelled by parents per visit	288	189	
Median number of miles of parents' homes from hospital	300	300	
Range	15-2600	50-2000	

\*p-values determined using Kolmogorov - Smirnov (10) test.